UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,798	04/18/2007	Piero Losi	07040.0262-00000	3422

22852 7590 04/05/2010

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
FISCHER, JUSTIN R	

ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
04/05/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,798	LOSI ET AL.	
	Examiner	Art Unit	
	Justin R. Fischer	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35-95* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35-95* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 11, 2010 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 35-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (JP 53080602, of record) and further in view of Masson (US 3,773,096, newly cited), Mine (JP 2003-320804, newly cited), and/or Ito (JP 2002-52906, newly cited).

As best depicted in Figure 2, Fukuda teaches a pneumatic tire construction having a tread formed of a first elastomeric material 6 and a second elastomeric material 5 (individual sectors separated by regions of first elastomeric materials), wherein said first elastomeric material is included in a groove section of the tread. The reference further teaches that the first elastomeric material provides higher wear resistance than the second elastomeric material. While the reference fails to expressly disclose the claimed modulus, one of ordinary skill in the art at the time of the invention would have recognized such a disclosure as teaching a higher modulus for the first

elastomeric material (higher modulus materials demonstrate higher wear resistance). As to the specific values for the modulus, Masson (Column 4, Lines 15+), Mine (Abstract), and/or Ito (Abstract) teach that rubber compositions having a modulus in accordance to the claimed invention are used in the manufacture of tire treads. It is emphasized that Fukuda generally teaches a structure in which a first elastomeric material has a greater modulus of elasticity (greater wear resistance), as compared to a second elastomeric material, without limitation. One of ordinary skill in the art at the time of the invention would have readily appreciated a wide variety of modulus values for each material as long as the desired wear resistance relationship (modulus relationship) is maintained between respective materials.

Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use first and second elastomeric materials satisfying the claimed invention. It is further noted that applicant's original disclosure fails to establish a criticality for the exact modulus values used for respective tread elastomeric materials. For example, it is unclear any realized benefits are simply a result of having differing moduli or if said benefits are a result of having differing moduli as long as the first elastomeric material has a modulus greater than 20 MPa and less than 80 MPa. Also, tensile and compressive modulus are approximately equal to one another in rubber compositions.

Regarding claim 36, Fukuda teaches a second elastomeric material having a lower wear resistance (and thus a lower a modulus of elasticity) as compared to said first elastomeric material without limitation in regards to the exact modulus values or the

difference between modulus values. Absent any conclusive showing of unexpected results, one having ordinary skill in the art at the time of the invention would have found it obvious to form the second elastomeric material in accordance to the claim given the general disclosure of common modulus values for the tread and the disclosed modulus /wear relationship (in Fukuda) between the first and second elastomeric materials.

With respect to claims 35 and 37-39, the combination of references suggest a wide variety of embodiments in which the respective moduli satisfy the broad ranges of the claimed invention and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed ranges.

With respect to claims 40-43, the claimed ranges are extremely broad and include relative language to define their lower and upper limits ("about"). Additionally, the claimed values are consistent with those commonly associated with tire components, including tread compositions. Absent any conclusive showing of unexpected, one of ordinary skill in the art at the time of the invention would have found it obvious to use compositions having the claimed hardness. It is emphasized that hardness values would be expected to be in the range of at least 50 and a difference of at least 10 percent, more preferably at least 15percent, suggests a hardness difference on the order of at least 5, which is consistent with rubber compositions having different moduli and hardness (as is the case in Fukuda).

As to claim 44, grooves are formed within first sectors 6.

Regarding claim 45, said first sectors extend over the entire thickness of the tread.

With respect to claims 46-49, whether or not the base portions of the first or second elastomeric material are connected to one another (and thus define an "additional layer") does not appear to be critical to the inventive concept of Fukuda. It is emphasized that the primary concern of Fukuda is in the inclusion of a first elastomeric material in the vicinity of the groove sections in order to improve wear/abrasion resistance. One of ordinary skill in the art at the time of the invention would have readily appreciated an arrangement in which the base portions of respective first sectors or second sectors are connected to one another. In this instance, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed thickness of the connecting portion (claimed values are consistent with the values conventionally associated with crown reinforcing layers in general and such dimensions are commonly disclosed in terms of a broad range of values). Lastly, it is emphasized that tread/cap and similar mutli-layered tread designs are commonly formed with a wide variety of arrangements, including ones in which a ground contacting rubber is connected within the tire to define an underlayer.

With further respect to claims 46 and 48, the figures of Fukuda appear to depict an assembly in which the second material includes a plurality of sectors that contact the ground and are connected beneath the first sectors to define an underlayer.

Regarding claim 50, said first sector has a width greater than a width of the groove.

As to claim 51, the figures generally depict the first sectors as having a slightly greater width than the corresponding grooves- such a depiction appears to be

consistent with the broad range of the claimed invention (difference of between 4-10 mm) and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed arrangement.

Regarding claim 52, the grooves have a depth that extends beyond the meridian plane of the first sectors.

With respect to claim 69, the language "about 30 MPa" is not seen to define over the modulus suggested by Masson, Ito, and/or Mine.

4. Claims 53-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda, Masson, Mine, and Ito as applied in claim 53 above and further in view of Caretta (US 6,635,132, of record).

As detailed above, Fukuda describes a tire construction comprising first and second sectors that define the tread, wherein said sectors are independent of one another. While the reference is silent as to the specific manufacturing method, the claimed method including a first and second delivery member is consistent with known tire manufacturing methods, as shown for example by Caretta (Figures 1 and 4). The reference further teaches that the robotized arm 16 can be used to position a toroidal support or drum in front of a plurality of extruders and such a method is applicable to a wide variety of tire components, including tire tread bands (Column 8, Lines 7+). In this instance, said plurality of extruders are associated with the deposition of said first and second sectors. Additionally, Figure 4 expressly depicts a method in which the toroidal support is rotated around the axis of rotation (rotation around axis X) and moved along

a direction substantially parallel to a rotation axis of the toroidal support (movement around axis E).

One of ordinary skill in the art at the time of the invention would have found it obvious to position the first and second sectors of Fukuda on a toroidal support using the method described Caretta as it is consistent with the known manufacturing methods and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed manufacturing method.

As to claim 61, the tire construction of Fukuda in view of Caretta would include a plurality of coils (first and second sectors) axially arranged side by side.

With respect to claim 62, any toroidal support or drum can be viewed as being "substantially" rigid.

Regarding claims 63-68, as detailed above, one of ordinary skill in the art at the time of the invention would have found it obvious to form the first or second sectors (at the base regions) as a continuous tire component- such a construction is consistent with the conventional manner in which tread/cap designs and other multi-layer tread designs are manufactured. It is further noted that applicant has not provided a conclusive showing of unexpected results to establish a criticality for the manufacture of a continuous component comprising either one of the first or second sectors (particularly evident in view of the fact that both embodiments are claimed).

5. Claims 71-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda and further in view of (a) Masson, Mine, and/or Ito and (b) Matsuo (EP 847,800, of record) and/or Tsuboi (JP 2000-118212, of record).

Fukuda in view of Masson, Mine, and/or Ito substantially teach the claimed tire assembly (see Paragraph 2 above). In this instance, the ground contacting first sectors are not depicted as being connected or joined to define an underlayer. In any event, it is extremely well known in similar tire assemblies to connect or join similar ground contacting sectors, as shown for example by Matsuo and/or Tsuboi. It is emphasized that there are an extremely limited number of possible configuration regarding the connection of first or second sectors to define such an underlayer and applicant has not provided a conclusive showing of unexpected results to establish a criticality of the claimed arrangement. It is additionally noted that applicant even claims each of the possible configurations (underlayer defined by either one of first or second sectors-claims 46-48), further suggesting that the claimed arrangement in claim 71 does not demonstrate unexpected results.

Also, such an underlayer would be "suitable for providing global rigidity to the tread" in as much as the underlayer of the claimed invention satisfies such a characteristic (claim language fails to require any additional structure).

Regarding claim 72, Fukuda teaches a second elastomeric material having a lower wear resistance (and thus a lower a modulus of elasticity) as compared to said first elastomeric material without limitation in regards to the exact modulus values or the difference between modulus values. Absent any conclusive showing of unexpected results, one having ordinary skill in the art at the time of the invention would have found it obvious to form the second elastomeric material in accordance to the claim given the

general disclosure of common modulus values for the tread and the disclosed modulus /wear relationship (in Fukuda) between the first and second elastomeric materials.

With respect to claims 71 and 73-75, the combination of references suggest a wide variety of embodiments in which the respective moduli satisfy the broad ranges of the claimed invention and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed ranges.

With respect to claims 76-79, the claimed ranges are extremely broad and include relative language to define their lower and upper limits ("about"). Additionally, the claimed values are consistent with those commonly associated with tire components, including tread compositions. Absent any conclusive showing of unexpected, one of ordinary skill in the art at the time of the invention would have found it obvious to use compositions having the claimed hardness. It is emphasized that hardness values would be expected to be in the range of at least 50 and a difference of at least 10 percent, more preferably at least 15percent, suggests a hardness difference on the order of at least 5, which is consistent with rubber compositions having different moduli and hardness (as is the case in Fukuda).

As to claim 80, grooves are formed within first sectors 6.

Regarding claim 82, said first sector has a width greater than a width of the groove.

As to claim 83, the figures generally depict the first sectors as having a slightly greater width than the corresponding grooves- such a depiction appears to be consistent with the broad range of the claimed invention (difference of between 4-10

mm) and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed arrangement.

Regarding claim 84, the grooves have a depth that extends beyond the meridian plane of the first sectors.

6. Claims 85-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda and further in view of (a) Masson, Mine, and/or Ito, (b) Matsuo and/or Tsuboi, and (d) Caretta.

As detailed above, Fukuda describes a tire construction comprising first and second sectors that define the tread, wherein said sectors are independent of one another. While the reference is silent as to the specific manufacturing method, the claimed method including a first and second delivery member is consistent with known tire manufacturing methods, as shown for example by Caretta (Figures 1 and 4). The reference further teaches that the robotized arm 16 can be used to position a toroidal support or drum in front of a plurality of extruders and such a method is applicable to a wide variety of tire components, including tire tread bands (Column 8, Lines 7+). In this instance, said plurality of extruders are associated with the deposition of said first and second sectors. Additionally, Figure 4 expressly depicts a method in which the toroidal support is rotated around the axis of rotation (rotation around axis X) and moved along a direction substantially parallel to a rotation axis of the toroidal support (movement around axis E).

One of ordinary skill in the art at the time of the invention would have found it obvious to position the first and second sectors of Fukuda on a toroidal support using

the method described Caretta as it is consistent with the known manufacturing methods and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed manufacturing method.

As to claim 93, the tire construction of Fukuda in view of Caretta would include a plurality of coils (first and second sectors) axially arranged side by side.

With respect to claim 94, any toroidal support or drum can be viewed as being "substantially" rigid.

Regarding claim 95, the claimed thickness is consistent with the thickness of layers in the belt region, whether they are belt reinforcing layers or simply rubber layers. Additionally, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed thickness. It is emphasized that crown reinforcing layers are commonly described as having a broad range of thickness values and such ranges conventionally included the values et forth by the claimed invention.

Response to Arguments

7. Applicant's arguments with respect to claims 35-95 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer
/Justin R Fischer/
Primary Examiner, Art Unit 1791
March 30, 2010